

METHOD AND APPARATUS FOR MULTIPLE ACCESS OVER A COMMUNICATION CHANNEL

ABSTRACT OF THE DISCLOSURE

This invention is a multiple access communication technique by which a
5 multitude of transmitters communicate with receivers using direct sequence spread spectrum
signaling. The direct sequence codes are reused by a large number of simultaneous
transmitters, so the system is named Code Reuse Multiple Access ("CRMA"). This reuse
method requires only a small number of codes relative to the number of simultaneous
transmitters, and can use as few as one code for all the users. The direct sequence codes are
10 not required to have special properties such as maximal length. The lengths of the spreading
codes employed are not necessarily related to the bit or symbol interval. CRMA can be
implemented on a Paired Carrier Multiple Access ("PCMA") system with or without a novel
receiver structure which is also described.

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